AN ASSESSMENT OF SHORELINE CHANGE OPTIONS IN SOUTH CAROLINA

RESEARCH TEAM

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FEBRUARY 2008

SHORELINE CHANGE ADVISORY COMMITTEE MEETING

Presentation Outline

- **Introduction**
- **Objectives**
- **Project Components and Current Progress**
- **Anticipated Benefits and Accomplishments**

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Introduction and Primary Objectives

- Objectives:
  - Compile an overview of current and emerging shoreline retreat strategies in the coastal United States.
  - Assess the perceived effectiveness of the South Carolina Beachfront Management program.
  - Collaborate with OCRM staff and the State Shoreline Change Committee to examine feasibility of policy options and recommend potential program changes in South Carolina.

Expected Results

- Final report that provides:
  - Coastal managers with an assessment of current shoreline management efforts in South Carolina and an overview of current and emerging trends from around the country.
  - Key information for the Shoreline Change Steering Committee, as described in state's Section 309 5- year strategy and related grant proposals.
  - Specific findings and information needs related to the long-term economic and social implications of the South Carolina shoreline retreat policy.

Project Components

1. Compile an overview of current and emerging shoreline retreat strategies including a comparative state assessment to establish a baseline of policy options.

2. Assess the perceived effectiveness of the South Carolina Beachfront Management program through stakeholder input and empirical research.

3. Collaborate with OCRM staff and the State Shoreline Change Committee to examine the feasibility of policy options and recommend potential program changes in South Carolina.

Project Component 1

Compile an overview of current and emerging shoreline retreat strategies including a comparative state assessment to establish a baseline of policy options.

- Expected Results
- Database of shoreline related regulatory and market-based policy tools.
- Proposed new approaches and perceived acceptance of new approaches in the example states.

Project Component 1, continued

- Completed Data Collection & Analysis
  - Revealed historical trends in coastal management
  - Examined institutional structures
  - Identified emerging issues and policy options
- Data Collection & Analysis in Progress
  - Comparative code research
  - Developing coastal manager questions

Project Component 1, continued

- Future Data Collection & Analysis
  - Analyze coastal state examples with respect to development patterns.
  - Determine regulations and incentives for each state.
  - Conduct interviews with state coastal managers.
  - Where is the state of South Carolina in terms of shoreline change policy right now compared to the rest of the nation?
  - Current thinking on shoreline change policy and revisiting the main themes.

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Project Component 2

Assess the perceived effectiveness of the South Carolina Beachfront Management program through empirical research and stakeholder input.

- Expected Results
- Analysis of shoreline development patterns over the past twenty years.
- Potential economic impact of shoreline change within selected case study areas.
  - Potential case studies: Beaufort, Horry, and Charleston Counties

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Project Component 2, continued

- Data Collection and Analysis in Progress
  - Create maps that include the following data:
    - Prior and Post-Beachfront Management Act
      - Shoreline, baseline, and setback lines
      - Historical and projected shoreline change
      - Building footprints and parcel data
      - Property tax information for all property along the beachfront
      - Beach nourishment areas/hard structures

Shoreline Change: Planimetric View
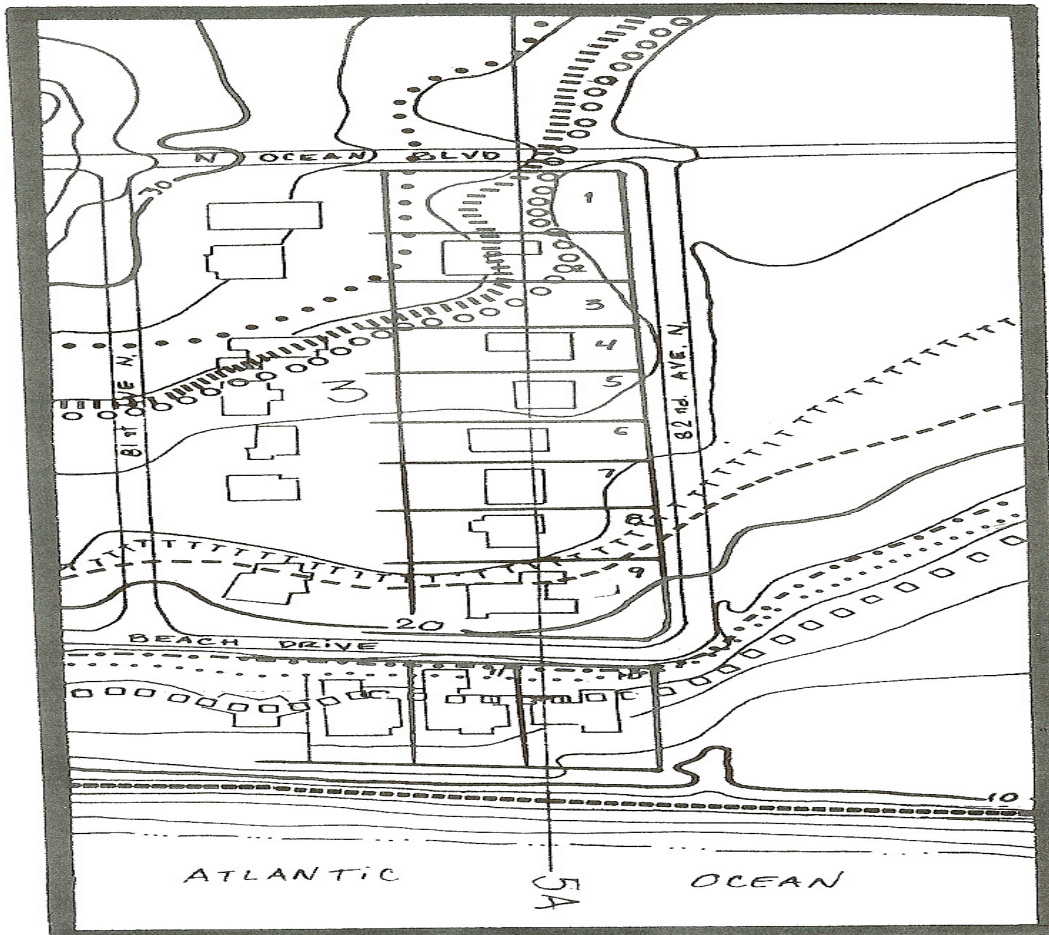
Figure 4. Planimetric view of Sector 5A.

Shoreline Change: Cross Section
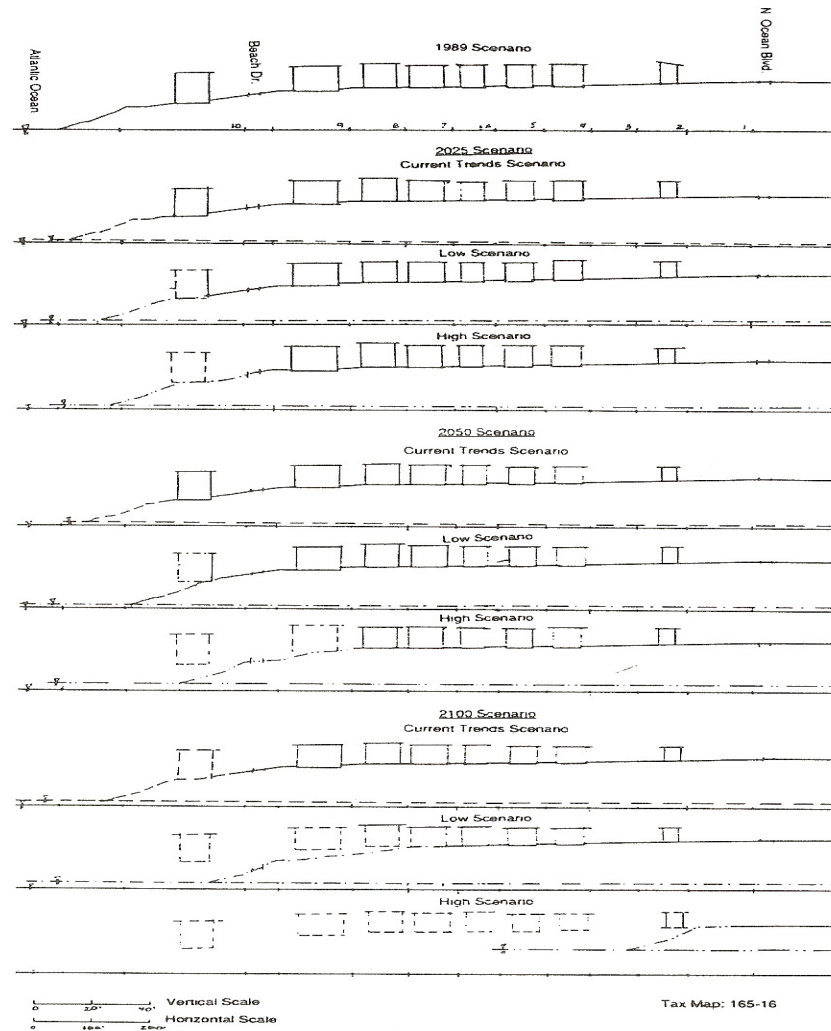
Statewide Shoreline Data

- **Historical Shoreline (USGS)**
  - Shoreline Dates: 1852-1875, 1920-1926, 1962-1964, 2000
  - Long-term and short-term erosion rates: based off of linear regression (1990 data is not included in this analysis)
- **Shoreline prior to Beachfront Management Act**
  - Obtained: 1984-1987 Shoreline
  - Imagery: Aerial Photography
  - Needed historical shoreline and Parcel Building Footprints and Parcel Data

Case Study Data
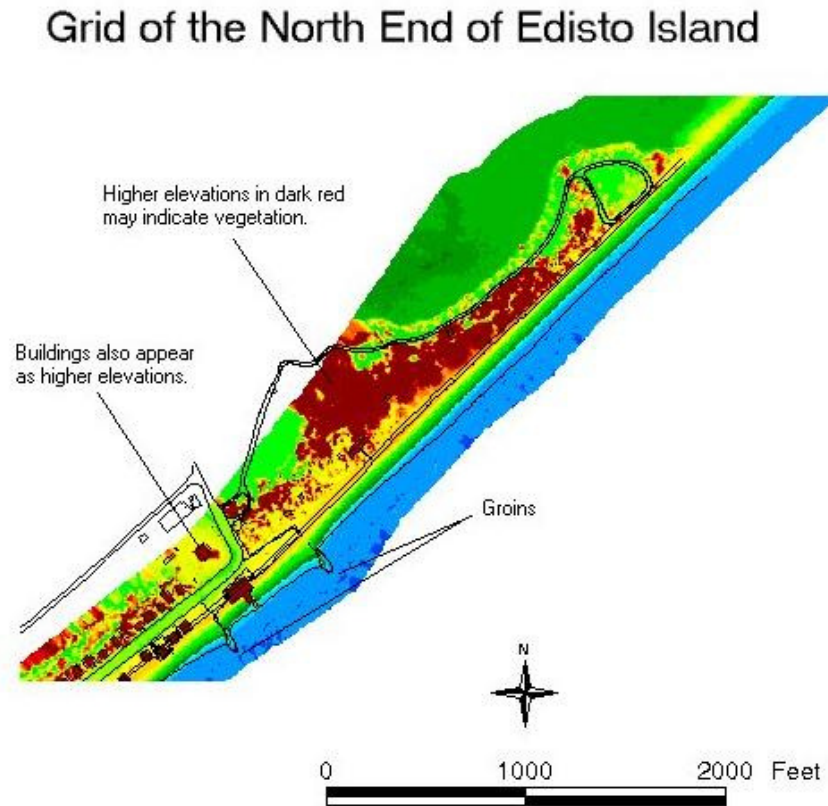
- Post Beachfront Management Act Implementation
  - 1996-1997 LIDAR Images: Portions of Isle of Palms
  - 2006 Lidar Images: NOAA Website, waiting on downloads to find out availability.
  - Aerial Photography from majority of South Carolina Coast
  - Original Baselines and setbacks
    - The metadata – no date, assuming the original baseline and setback
    - http://www.csc.noaa.gov/products/sccoasts/html/pdecript.htm
  - 1999-2000 baselines and setbacks
    - OCRM: http://www.scdhec.gov/environment/ocrm/permit/beachfront.htm
    - NOAA Coastal Services Center

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Data Needed

- Parcels and Building footprints: 1988 and most current
    1. Appraised property value
    2. Date of construction
    3. Properties with critical area permits or variances to BMA.

- Erosion Rates – current and projected – Coastal Carolina

Grid of the North End of Edisto Island

Higher elevations in dark red may indicate vegetation.

Buildings also appear as higher elevations.

Groins

0   1000   2000 Feet

South Carolina's Coast: A Remote Sensing Perspective, 1998. NOAA

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Project Component 2, continued

- ☐ Stakeholder Input
  - ◻ In-depth interviews with select coastal managers

- ☐ Focus groups
  - ◻ Citizens
  - ◻ Local government officials
  - ◻ Chambers of Commerce
  - ◻ Tourism industry
  - ◻ Realtors and Rental Companies
  - ◻ Hoteliers
  - ◻ NGOs

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Project Component 3

Collaborate with OCRM staff and the State Shoreline Change Committee to examine the feasibility of policy options and recommend potential program changes in South Carolina.

□ Ongoing dialogue

□ Regular briefings

□ Quarterly reports

□ Final report

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Timeline

The project will terminate one year from its start date.

Task

1. Historical Overview of Shoreline Retreat………....Q1, Q2

2. Database and Policy Tools…………….............Q2, Q3

3. GIS Assessment………………………….……Q2, Q3

4. Legal and Economic Assessment……………..Q1, Q2, Q3

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5. Stakeholder Focus Groups………………………Q2,

Questions

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Coastal Manager Question Categories

1. The perceived effectiveness of the shoreline management plan itself

2. The relationship of the shoreline management plan to the law.

3. Innovations in shoreline management strategies and how they relate to the plan.

4. Ease of implementation of the tools and the plan itself.

5. Coastal manager's wish list for ideas to be addressed in shoreline management (e.g. climate change, sea level rise) and how to implement those ideas.

6. Institutional relationship with local and federal governments, state regulations, and private industry (e.g. tourism, development).

7. Funding

8. Obstacles to implementing wish list items and shoreline management in general.

9. Data needs.